

# **Masking Pixels: Insights into the Design and Delivery of a Photoshop Workshop**

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**Abstract:** Adobe Photoshop is a powerful pixel-editing application with a steep learning curve. Program proficiency can offer high returns in both professional production and personal creative expression. To acquire skills, some learners choose to attend software-training workshops, such as those offered by the researcher, through Pacific New Media (PNM) at the University of Hawaii. This paper describes the development, delivery, evaluation, and assessment of a three-hour Photoshop masking workshop targeting adult learners. The workshop was presented three times over a two-day period to a total of 23 research participants. Pre- and post-workshop surveys and tests were administered to collect various qualitative and quantitative feedback, and to assess learning objective fulfillment. Data analysis yielded valuable insight into participant aptitudes, their attitudes towards various aspects of the learning experience, and their trends in knowledge acquisition. Results revealed that a suitable target audience was recruited and that participants were highly satisfied. Gains in knowledge were evident and a new method for assessing higher-order, problem-solving skills was identified. Teaching method modifications, based on insights gathered through the instructional design process, can be applied to the design and delivery of all future workshops.

## **Introduction**

Adobe Photoshop is a robust and intimidating professional-level software application. Learning even its basic functionality can be a frustrating and disheartening process. While pixel-editing proficiency may be difficult to acquire, those with a desire to learn have many available educational options. These options, which are designed to suit a variety of learning styles, include books, video series, and software training workshops.

Pacific New Media (PNM) at the University of Hawaii offers a comprehensive program of half, single, and multi-day software training workshops to the general public. Non-credit and fee-based, the workshops are evaluated but learning is not formally assessed. Typical workshop attendees are adult learners motivated by professional pressures to improve their software proficiency. The PNM computer lab features an instructor station, overhead screen, and fully equipped computers for up to 20 students. Amongst the most popular PNM offerings are various beginner, intermediate, and advanced Photoshop training workshops.

I have worked as an educator with PNM for seven years, teaching a full-day Photoshop workshop tri-annually for the last four years. The instructional flow of this workshop requires attendees to follow along as I present a series of step-by-step exercises designed to familiarize them with fundamental software features. Detailed handouts and online access to workshop materials are provided to promote and facilitate independent, post-class skill repetition. Since the primary focus is on exposure to select materials, little in-class practice time is allotted outside of the structured exercises. Based on personal reflection and feedback gathered through past workshop evaluations, I believe my instructional approach is valid and appreciated.

As an educator, my goal is to teach in the most effective way possible. Therefore, I devised this instructional design project to develop and evaluate a new, half-day Photoshop workshop for adult learners at PNM. Designed in a similar style to my full-day workshop, I implemented the formality of instructional design to deliver both enhanced instruction and deeper insight into my software-training effectiveness.

## **Background**

When teaching Photoshop beginners my instructional strategy focuses on delivering targeted content designed to develop fundamental software knowledge. By offering practical real-world exercises, workshop training aims to reveal software potential so learners can see its usefulness in their own applications (Lambrecht, 1995). By guiding learners through carefully documented and meaningfully organized exercises (Kruse & Kevin, 1999), a nurturing mechanism is provided whereby learners can work towards independent skill mastery. This instructional strategy fosters lower-order concept understanding and skill proficiency, and offers higher-order problem solving transfer possibilities. My beginner-level workshops lay a foundation on to which more advanced constructivist-learning strategies, including the minimalistic approach originally described by John Carroll (1990), may be developed.

## **Methods**

To thoroughly evaluate the design of a new, half-day Photoshop workshop, a formal instructional design process was implemented. Efforts in this process included the preparation, creation, and delivery of workshop content. Related efforts involved the collection, processing, and evaluation of survey and test data obtained from a recruited target audience.

### *Preparing for Instruction*

I focused my instructional efforts on masking, which is a highly useful though fairly abstract process of hiding pixels to modify images. While I possessed a working knowledge of masking techniques, it was necessary to broaden my topic understanding to develop content effectively and to field questions posed by workshop attendees. Professional Photoshop books and videos were consulted and in the process, valuable insight into effective teaching methods for the subject was acquired.

### *Content Development*

As the topic of masking is very broad, I decided that a three-hour workshop would allow for sufficient material to be explored without overwhelming participants. Based on prior workshop experience, I determined that five hands-on exercises could be presented in this timeframe. I used my web design and publication background to identify masking skills with highly practical, real-world applications, which would form the foundation of instruction.

### *Creation of Instructional Materials*

With a background in web design, I chose to develop instructional materials through the creation of a custom workshop website. The final website included a masking overview page and separate pages offering detailed, step-by-step instructions for each of the five exercises. In addition, in-class handouts were derived from the website pages, providing guidance during the workshop and continuity during proposed post-class, skill repetition.

### *Development of Surveys*

I opted to create three separate surveys to collect a broad range of quantitative and qualitative data from workshop participants. I developed a pre-workshop survey, comprised of multiple-choice questions; a post-workshop survey, which included both Likert scale and open-ended questions; and an online follow-up survey, which included both multiple-choice and open-ended questions. As the follow-up survey could not be administered face-to-face, responses were to be considered supplemental rather than integral to the instructional design process. Analysis of all survey data was anticipated to yield rich insight into who the research participants were and what they thought of the workshop.

### *Development of Tests*

I created a pre-workshop test designed to measure participant baseline subject knowledge. The 25 test questions covered general and masking-specific Photoshop material, and were a mix of multiple-choice, true/false, matching, and fill-in-the-blank. A parallel post-workshop test was then developed with a slight rewording and reordering of questions. A comparative analysis of pre- and post-test question responses was anticipated to yield insight into whether the workshop learning objectives had been met.

### *Participant Recruitment*

The target audience that I selected for this study was Photoshop beginners and those with above average computer literacy. Invitations were sent to former PNM workshop attendees and Department of Educational Technology classmates. The three-hour workshop was offered in exchange for one hour of attendee research participation. Three separate workshop timeslots were offered, attendee sign-ups were tracked, and email attendance reminders were sent out.

### *Workshop Delivery*

I delivered my workshop three times over a two-day period. Each session took four hours to complete and included the administration of the pre-survey and pre-test (30

minutes), Photoshop instruction (three hours), and the administration of the post-test and post-survey (30 minutes). The online, follow-up survey, administered one month after the workshop concluded, was made available for 10 days before being taken offline so that responses could be processed.

### *Data Processing and Evaluation*

The data that I collected during the workshop was done through paper-based forms. Data was obtained anonymously to encourage honest, unbiased feedback from participants. Quantitative survey and test responses were entered into a spreadsheet, while qualitative comments were digitized to text. All data, including what was gathered through the follow-up survey, was then evaluated for consistency before being analyzed to identify trends in demographics, learning, and for general insights into my software-training effectiveness.

## **Results**

A total of 23 subjects attended the three workshop sessions and participated in the research project. Both session one and session two had eight attendees, while session three had seven attendees. For unknown reasons, two scheduled participants failed to attend. No major logistical or technical issues affected any session, and while some data collection issues did arise, these issues were not significant enough to challenge the overall data validity and usefulness. Minor issues in data consistency have been factored into the following reporting.

### *Pre-Workshop Survey*

Successful administration of the pre-workshop survey yielded a broad range of workshop participant details. Excluded from reporting are responses from six questions, five of which offer no significant insight, and one where a lack of question clarity may have affected the overall validity of feedback. Analysis of the remaining responses revealed the following:

#### Demographics:

- Regarding gender, 70% of workshop participants were female, and 30% were male.
- Regarding age, 48% were between 20-39 years old, 43% between 40-60, and nine percent were over 60.

#### Experience:

- When asked to rate their computer experience level, 14% reported Beginner, 59% Intermediate, and 27% Advanced.
- When asked to rate their Photoshop experience level, 83% reported Beginner, and 17% Intermediate.
- When asked how much time they had spent using Photoshop, 44% reported more than 10 hours, 44% less than 10 hours, and 12% None.

Additional:

- When asked what type of computer they used, 52% reported PC, 40% Mac, and eight percent noted Equal use of both.
- When asked to state their primary reason to learn Photoshop, 62% reported Work, and 38% Personal.
- All but one attendee reported having access to Photoshop outside the workshop.

#### *Post-Workshop Survey*

Successful administration of the post-workshop survey yielded a broad range of workshop feedback. Excluded from reporting are responses from two questions, where a lack of question clarity caused multiple response interpretations. A full report of Likert scale responses is offered in Appendix A. Open-ended participant feedback on the exercises and overall workshop is offered in Appendix B, while comments on possible workshop modifications is offered in Appendix C.

#### *Follow-Up Survey*

While administration of the online follow-up survey did yield supplemental data, only nine of the 23 workshop participants responded. Excluded from reporting are responses from one question, which offer no significant insight. Open-ended feedback on possible workshop improvements is offered in Appendix C. Analysis of the remaining responses revealed the following:

- When asked to report if they had performed masking since the workshop, 89% of responses were affirmative.
- When asked to report if they had utilized the workshop website and/or handout since the workshop, 89% of responses were affirmative.
- All respondents reported that they would watch video walkthroughs of workshop exercises, if provided.

#### *Workshop Testing*

Successful administration of the pre- and post-workshop tests yielded appropriate assessment data. No test data was excluded from examination. A comparative analysis of participant answers revealed the following:

- The average participant pre-test score was 71%, while the average post-test score was 85%.
- 74% of participants scored higher on the post-test, 13% showed no gain, and 13% scored lower.

### **Discussion**

With a combined need to provide a suitable student-teacher ratio and to acquire an appropriate number of subjects needed for sufficient data collection, I intentionally divided the total workshop participant group into three separate sessions. While workshop content and teaching methods were identical across all sessions, each meeting was tailored to best serve individual attendee needs and the overall group dynamic. As

only the effectiveness of the workshop method could be analyzed through the survey responses, these sessional variations are not included in this discussion.

### *Participant Selection*

Since PNM workshops are open to public enrollment, workshop instructors are typically required to accommodate a wide range of attendee experience, comfort, and aptitude levels. While PNM does make significant efforts to best match learners to an appropriate level of workshop training prior to registration, the three sessions covered in this analysis may have had a better than average compliance rate because I was afforded a pre-screened recruitment of attendees. By inviting former PNM students, I was able to pre-establish both computer and Photoshop aptitude levels in 82 percent of participants. I also knew that the majority of remaining attendees possessed above average computer literacy.

### *Measuring Participant Attitudes*

Analysis of Likert scale data reveals a high overall participant satisfaction with the workshop (see Appendix A). Attendees had a strong favorable response towards the value of my topic knowledge and my encouragement of active participation. While it does appear that workshop time, pace, and exercise difficulty may not have been optimal for a few learners, the majority of participants deemed these elements appropriate. The only significant dip in general satisfaction appears in the question concerning participant confidence towards the realities of unsupervised, post-class skill application. This dip was not unexpected, and it provides support for my continued development of detailed, exercise handouts to promote and facilitate independent, post-class skill repetition.

### *Listening to Open-ended Feedback*

It was encouraging and reassuring to find participant satisfaction voiced not only through the Likert scale findings, but also in numerous comments collected through the open-ended survey questions (see Appendix B, C). Common themes of satisfaction, revealed through multiple forms of inquiry, provide validation and confirmation of my prescribed teaching methods. By analyzing qualitative attendee feedback, the following workshop elements appear to have been especially valued:

- Delivery of enjoyable, practical, real-world exercises
- Demonstration of supplemental and related skills
- Promotion of active participation and questioning
- Presentation of material in an engaging, personable, and understandable manner
- Provision of detailed exercise handouts available for in-class and post-class use
- Development of the support website and online availability of class materials

Constructive participant feedback on potential workshop modifications and improvements was also analyzed. When combined with an informal self-assessment of my instructional efforts, attendee suggestions provided for an enhanced evaluation of the overall learning experience. Significant themes identified within the constructive participant feedback include:

- Increasing the repetition of basic skills prior to advance topic exploration
- Including more supervised in-class practice time
- Providing personalized learning opportunities outside of the structured content
- Extending the workshop to a full or multi-day experience
- Creating video walkthroughs of workshop exercises

### *Reflections on Workshop Testing*

Since PNM workshops are fee-based, pre- and post-tests are not administered, as testing would take away from training time. This research project presented a valuable opportunity to perform a formal learning assessment, and to examine testing effectiveness. When analysis of test data revealed participant scores and overall gains that were lower than anticipated, a critical review of testing materials was undertaken. I determined that the clarity of some test questions might have benefitted from additional refinement. I also determined that while lower-order learning objectives were adequately measured, valuable reporting on higher-order, problem solving objectives was insufficient.

In retrospect, I believe that traditional forms of testing alone are inadequate for measuring software skill acquisition. A more useful form of higher-order testing might involve the use of screencast technology. In this environment, learners could be tasked to demonstrate their problem solving skills, while screen-capture video records their attempts. While video storage, transfer, review, and grading would increase instructor responsibilities, this form of assessment would provide a more revealing and detailed insight.

### **Conclusion**

The purpose of this instructional design project was to develop and evaluate a new Photoshop workshop for adult learners at PNM. The process included the development and delivery of face-to-face instruction, surveys, and tests. Results revealed that a suitable target audience was recruited and that participant satisfaction was high. Gains in knowledge were evident and a new method for assessing problem-solving skills was identified.

The overall success of the workshop has been validated by its addition to the PNM software-training curriculum. Lessons learned from this effort will be applied to workshop redesign efforts. I hope to implement new testing procedures in the future to better assess both lower- and higher-order learning objectives. I feel strongly that insights gathered through this instructional design process can be directly applied to the design and delivery of my future workshops.

## References

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**Appendix A**  
Post-Workshop Survey Likert Scale Results (%)

| <b>Instructor<br/>Performance</b>   | <b>Strongly<br/>Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly<br/>Disagree</b> |
|---|---------------------------|--------------|-----------------|------------------------------|
| The instructor was knowledgeable on the topic of masking                      | 95                        | 5            | 0               | 0                            |
| The instructor presented material in a well-organized manner                  | 86                        | 14           | 0               | 0                            |
| The instructor encouraged questions and active participation                  | 95                        | 5            | 0               | 0                            |
| The instructor covered the topic appropriately in the time allowed            | 86                        | 14           | 0               | 0                            |
| The instructor provided a suitable workshop handout                           | 86                        | 14           | 0               | 0                            |
| The instructor provided a useful workshop website                             | 86                        | 14           | 0               | 0                            |
| <b>The Workshop<br/>Environment</b>   | <b>Strongly<br/>Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly<br/>Disagree</b> |
| The workshop was the appropriate length of time                               | 67                        | 33           | 0               | 0                            |
| The workshop pace was appropriate for me                                      | 70                        | 25           | 5               | 0                            |
| The workshop exercises were of an appropriate difficulty level                | 71                        | 24           | 5               | 0                            |
| The workshop exercises were interesting and challenging                       | 81                        | 19           | 0               | 0                            |
| The workshop met my expectations  | 86                        | 14           | 0               | 0                            |
| <b>Learning<br/>Experience</b>  | <b>Strongly<br/>Agree</b> | <b>Agree</b> | <b>Disagree</b> | <b>Strongly<br/>Disagree</b> |
| I learned useful skills that I will apply to my Photoshop use                 | 77                        | 23           | 0               | 0                            |
| I feel confident that I will be able to apply these skills on my own          | 41                        | 55           | 5               | 0                            |
| I believe that I will utilize the workshop website and handout as a reference | 82                        | 18           | 0               | 0                            |
| I believe this hands-on style of workshop learning is productive for me       | 91                        | 9            | 0               | 0                            |

**Appendix B**  
Post-Workshop, Open-ended Feedback

**A. General comments about the workshop exercises:**

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Bill chose excellent examples to introduce us to the basics of masking and I feel I can practice on my own and not get frustrated.

I will likely apply what I have learned for use in my business and personal projects.

They were perfect + practical.

I really enjoyed all the exercises and the added information provided by the questions asked in class.

I actually learned about a lot of the effects that I've seen in magazines + wondered how they did it.

Ivy exercise needed a little more time.

I liked them because I was able to follow along + accomplish them.

Very engaging exercises and challenge questions. Instructor's style of teaching suited my learning style very well.

Great and useful in many other endeavors.

I like the mix of doing exercises/watching demos.

Loved the exercises. They gave me an excellent starting point and samples into Photoshop.

**B. General comments about the workshop:**

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A bit difficult for my previous "expertise" level with Photoshop but good nonetheless.

Great and helpful. I definitely need to practice everything I've learned...

I feel so lucky to have had a patient instructor as Bill to teach us. For Free!!

I really enjoyed the workshop but I love the website so that when I get home and try it on my own I have something to fall back on.

Very useful, can put course work to immediate use

I really liked how you have the handouts + the website to support reinforcing the lesson.

As always Bill Morrison shows himself to be the master at communicating complex ideas and encouraging interaction.

I can't wait to try this at home!

Fantastic. Really helped to bring Photoshop skills to next level.

Excellent workshop learning materials provided! I particularly like the opportunity to visit the instructor's website after the workshop to review the exercises and gain more practice.

Very comprehensive yet delivered in easy to grasp way through instructor's ease in explaining using personal experiences and step-by-step process.

Took some of the fear I had with Photoshop. Made it seem easy to use ... with practice.

I really enjoyed myself and can't wait to practice/use what I've learned today!

Great content. Really enjoyed and feel that got a lot of good information & practice.

Pace and content of class was appropriate at this level. Excellent class. Learned a lot.

## **Appendix C**

### Workshop Modification and Improvement Feedback

#### **A. Workshop modification suggestions collected from the post-workshop survey**

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The workshop was very well planned, organized and executed. I don't think I would change anything on it.

Excellent workshop for time allotted. If you have more time, the Magic Wand and Quick Selection tools should be further highlighted. These tools seem really important and I plan to watch YouTube videos to increase my proficiency/skill with these tools.

The only thing I might change would be the length of the class just so that more info can be provided on masks or adding a secondary class that can get more into masking at the beginning stage.

Extend the course time to 6 hr.

All was great.

It would be fun to add one more exercise at the end where we took 2 pictures we liked from the Internet + tried to mask them to take something home to hang on the wall.

Give more exercises or challenges. I thought I understood while going through the exercises but once I did not have the step by step I felt lost.

Perhaps, in the first two exercises - make students do 1st steps repeatedly until they have the basics down. More exercises = more practice!

More time. Divide into 2 classes. Go home after first + do homework

For more participant involvement (& if time permits) at the end of an exercise, ask for a volunteer to "drive" a demo on the screen & other participants can help if volunteer gets stuck.

Nothing. Wonderful job. I learned more in 3 hours than previous lab classes

#### **B. Workshop improvement suggestions collected from the online, follow-up survey**

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I thought it was great and covered a lot for the time allotted.

You were pretty good and thorough, so you just need to figure out how to force us to practice what we learned.

I liked having the supporting handouts.

Perhaps adding the video tutorials would help.

You could ask participants to bring their own photos in to work with.

Give a area at the end where everyone can work on their own project and you can help critique, if that doesn't take too long.

The only thing I could think of would be to make it into a full day workshop and add a few more exercises

I were to suggest, well, in the intro and purpose, it would be additionally helpful to provide more than the technique and usage of the tools to achieve an end result but some creative thoughts about the creative process or what it's to launch from.